

WP 3 Intermetallics and adv. materials for marine engines



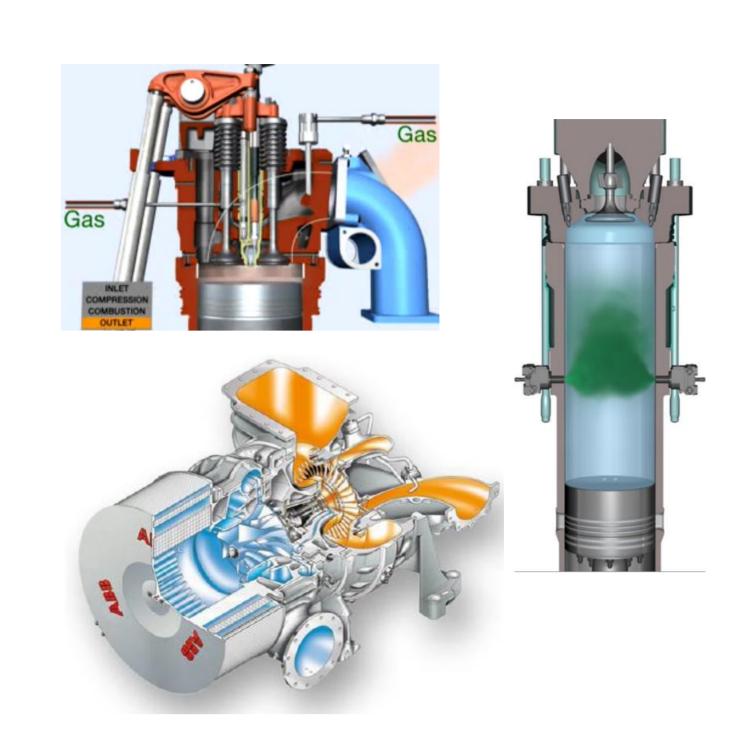
WP OBJECTIVES

Subproject 3.1: Novel materials for engine applications

Examine possibilities of using novel materials in engines to facilitate the development of components that enable higher engine loads, hereby increasing efficiency and lower emissions. Ensure proper lifetime performance and durability.

Subproject 3.2: Novel materials for turbine casing

Material of turbine casing is reviewed in respect of material and design in order to meet requirements needed for higher exhaust gas temperatures.



EXPECTED OUTCOME

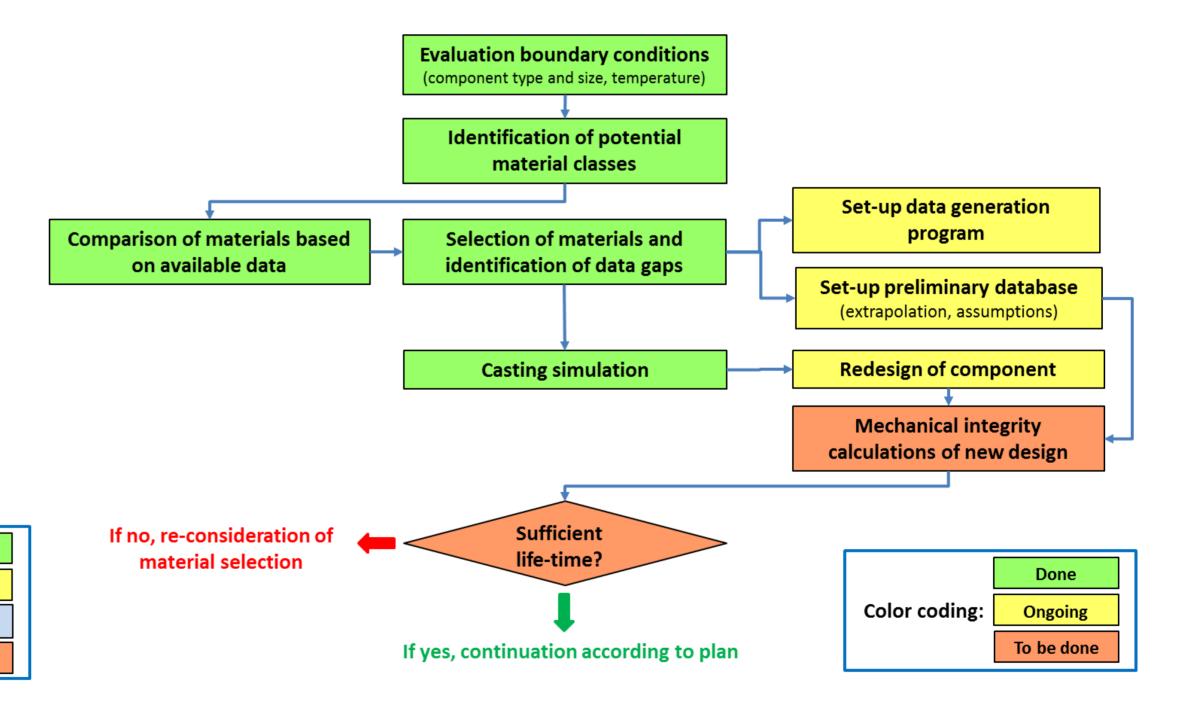
Subproject 3.1: Suitable new materials can be identified for at least two components for higher load operations and longer life time.

Subproject 3.2: Performance is improved through material / design optimization.

PROGRESS AND PLANS

Subproject 3.1

Evaluation of engine components require novel materials to meet future demands Definition of components boundary conditions Evaluation and propose suitable material and manufacturing routs **Decision on** type of alloys Optimization of processing routes **Final decision** with reference on type of alloy with reference to selected Manufacturing of test samples to selected component and definition of components **Detailed investigation** white spots **Prototype manufacturing** Done **Color coding:** Ongoing **Prototype testing** ahead **Final Material investigation** To be done Subproject 3.2



WP PARTICIPANTS

WP lead: WinGD WP deputy: Wärtsilä.









